

Automotive Heating and Air Conditioning 9th Edition

Chapter 15 – Refrigerant Recovery, Recycling, and Recharging

Lesson Plan



CHAPTER SUMMARY:

1. Safety First, SAE J Standards, Refrigerant Identification, A/C Servicing, and Refrigerant Recovery
 2. Recycling Refrigerant, Flushing an A/C System, Replacing Components, and Inline Filters
 3. Refrigerant Oil, Evacuating the System, Recharging the System, and Sealants and Stop Leaks
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OBJECTIVES:

1. Prepare for the ASE Heating and Air Conditioning (A7) certification test content area “A” (A/C System Service, Diagnosis and Repair).
 2. Explain the steps involved in the service and repair of A/C systems.
 3. Discuss the procedure for identifying refrigerants in an A/C system.
 4. Explain the procedure for refrigerant recovery in A/C systems.
 5. Explain the procedure for recycling refrigerant in A/C systems.
 6. Discuss the purpose of flushing an A/C system.
 7. Explain the procedure for evacuating an A/C system.
 8. Discuss the procedure for recharging an A/C system.
 9. Explain the purpose of sealants and stop leaks.
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RESOURCES: ([All resources may be found at jameshalderman.com](http://www.jameshalderman.com))

1. Task Sheet: Air Conditioning System Performance Test
 2. Task Sheet: Air Conditioning Noise Diagnosis
 3. Task Sheet: Refrigerant Identification/Read Pressures
 4. Task Sheet: Leak Test the Air Conditioning System
 5. Task Sheet: Determine Need for Refrigerant Filter
 6. Task Sheet: Air Conditioning System Performance Check
 7. Task Sheet: Air Conditioning Control System Diagnosis
 8. Task Sheet: Identify the Source of A/C System Odors
 9. Task Sheet: Evaporator Housing Drain
 10. Task Sheet: Evaporator/Heater Core Replacement
 11. Task Sheet: Condenser Replacement
 12. Task Sheet: Inspect Belts and Hoses
 13. Chapter PowerPoint
 14. [Crossword Puzzle and Word Search \(A7\)](#)
 15. [Videos: \(A7\) Heating & Air Conditioning](#)
 16. [Animations: \(A7\) Heating & Air Conditioning](#)
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ACTIVITIES:

1. Task Sheet: Air Conditioning System Performance Test
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ASSIGNMENTS:

1. Chapter crossword and word search puzzles from the website.
 2. Complete end of chapter quiz from the textbook.
 3. Complete multiple choice and short answer quizzes downloaded from the website.
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CLASS DISCUSSION:

1. Review and group discussion chapter Frequently Asked Questions and Tech Tips sections.
 2. Review and group discussion of the five (5) chapter Review Questions.
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NOTES AND EVALUATION:
